



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
06.08.2008 Bulletin 2008/32

(51) Int Cl.:
G06F 15/76 (2006.01) G06F 9/38 (2006.01)

(43) Date of publication A2:
02.01.2008 Bulletin 2008/01

(21) Application number: **07111350.0**

(22) Date of filing: **16.08.1996**

(84) Designated Contracting States:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

(30) Priority: **16.08.1995 US 516036**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
96928129.4 / 0 845 120

(71) Applicant: **MicroUnity Systems Engineering, Inc.**
Santa Clara, CA 95050 (US)

(72) Inventors:
• **Hansen, Craig**
c/o MicroUnity, Inc.
Santa Clara, CA 95050 (US)
• **Moussouris, John**
c/o MicroUnity, Inc.
Santa Clara, CA 95050 (US)

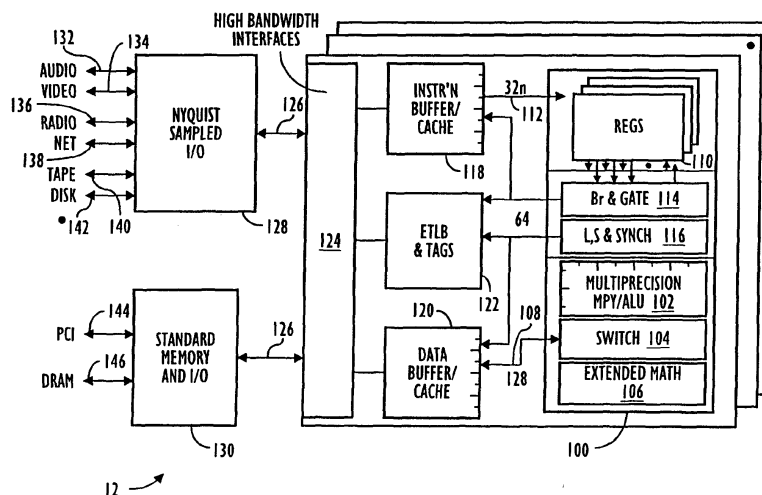
(74) Representative: **Clark, Jane Anne et al**
Mathys & Squire LLP
120 Holborn
London EC1N 2SQ (GB)

(54) **General purpose, programmable media processor**

(57) A general purpose, programmable media processor (12) for processing and transmitting a media data streams. The media processor (12) incorporates an execution unit (100) that maintains substantially peak data through out of media data streams. The execution unit (100) includes a dynamically partionable multi-precision arithmetic unit (102), programmable switch (104) and programmable extended mathematical element (106). A

high bandwidth external interface (124) supplies media data streams at substantially peak rates to a general purpose register file (110) and the execution unit. A memory management unit, and instruction and data cache/buffers (118, 120) are provided. The general purpose, programmable media processor (12) is disposed in a network fabric consisting of fiber optic cable, coaxial cable and twisted pair wires to transmit, process and receive single or unified media data streams.

FIG. 7





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 11 1350

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	SHIPNES J ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "Graphics processing with the 88110 RISC microprocessor" INTELLECTUAL LEVERAGE. SAN FRANCISCO, FEB. 24 - 28, 1992; [PROCEEDINGS OF THE COMPUTER SOCIETY INTERNATIONAL CONFERENCE (COMPCON) SPRING], LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, vol. CONF. 37, 24 February 1992 (1992-02-24), pages 169-174, XP010027133 ISBN: 978-0-8186-2655-5 * the whole document *	1-29	INV. G06F15/76 G06F9/38
X	KOHN L ET AL: "THE VISUAL INSTRUCTION SET (VIS) IN ULTRASPARCTM" DIGEST OF PAPERS OF THE COMPUTER SOCIETY COMPUTER CONFERENCE (SPRING) COMPCON. TECHNOLOGIES FOR THE INFORMATION SUPERHIGHWAY. SAN FRANCISCO, MAR. 5 - 9, 1995; [DIGEST OF PAPERS OF THE COMPUTER SOCIETY COMPUTER CONFERENCE (SPRING) COMPCON], LOS ALAMIT, vol. CONF. 40, 5 March 1995 (1995-03-05), pages 462-469, XP000545454 ISBN: 978-0-7803-2657-6 * page 462, left-hand column, line 1 - page 464, right-hand column, line 38 * * page 466, paragraph 5.1 * * page 468, left-hand column, line 7 - right-hand column, line 23 * ----- -/--	1-29	TECHNICAL FIELDS SEARCHED (IPC) G06F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 20 June 2008	Examiner Michel, Thierry
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

3
EPO FORM 1503 03.82 (P04C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 11 1350

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	MOTOROLA ED - MOTOROLA: "MC88100 RISC Microprocessor User's Manual" MC88100 RISC MICROPROCESSOR USER'S MANUAL, ENGLEWOOD, NJ : PRENTICE HALL, US, 1 January 1990 (1990-01-01), pages 1-3/94, XP002474804 ISBN: 978-0-13-567090-3 * pages 1-14 * * pages 2-4 *	1,16-24, 27,28	TECHNICAL FIELDS SEARCHED (IPC)
A	GWENNAP L: "ULTRASPARC ADDS MULTIMEDIA INSTRUCTIONS. OTHER NEW INSTRUCTIONS HANDLE UNALIGNED AND LITTLE-ENDIAN DATA" MICROPROCESSOR REPORT, MICRODESIGN RESOURCES, MOUNTAIN VIEW, CA, US, 5 December 1994 (1994-12-05), pages 16-18, XP000561690 ISSN: 0899-9341 * the whole document *	1-29	
A	DIEFENDORFF K ET AL: "THE POWERPC USER INSTRUCTION SET ARCHITECTURE" IEEE MICRO, IEEE SERVICE CENTER, LOS ALAMITOS, CA, US, vol. 14, no. 5, 1 October 1994 (1994-10-01), pages 30-41, XP000476678 ISSN: 0272-1732 * table 1 * * table 2 *	1-29	
A	ULTRASPARC: "Ultrasparc multimedia Capabilities On-Chip Support for Real-Time Video and Advanced Graphics" SPARC TECHNOLOGY BUSINESS ULTRASPARC, XX, XX, 1 September 1994 (1994-09-01), pages 1-8, XP002177546 * the whole document *	1-29	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 20 June 2008	Examiner Michel, Thierry
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

3
EPO FORM 1503 03.82 (P04C01)